What is claimed is:

1. A gate driver for forcing a power transistor including a gate electrode insulated with oxide film into conduction or shut-off, the gate driver comprising:

a first current source for outputting a first current value to raise an electric potential of the gate electrode for changing a shut-off state of the power transistor to a conductive state; and

a second current source for outputting a second current value to lower the electric potential of the gate electrode for changing the conductive state of the power transistor to the shut-off state,

wherein the first current value and the second current value are assigned based on at least one kind of current-source control information.

2. A gate driver to be coupled to a gate electrode and a source electrode of a power transistor including the gate electrode insulated with oxide film, the gate driver comprising:

a coupler to be coupled to outside of the gate driver, the coupler including a connecting section to the gate electrode, a connecting section to the source electrode, and a cluster of input terminals for receiving a gate-driver control signal; and

an interior structure including a first current source, a second current source, a gate circuit (NOT circuit), and a current assignor,

wherein the first current source and the second current source are assigned their current values by an output signal supplied from the current assignor, and their outputs are controlled by a switch-control signal supplied via one of the input terminals that receive a gate-driver control signal,

wherein the current assignor receives at least one kind of current-source control information via each one of the input terminals except

the one through which the switch-control signal is supplied, and a group of output signals of the current assignor are controlled based on the current-source control information;

wherein the gate circuit (NOT circuit) inverts the switch-control signal that controls the second current source;

wherein a first terminal of the first current source is coupled to the power supply of the gate driver, and a second terminal of the first current source is coupled to a first terminal of the second current source, and a second terminal of the second current source is coupled to the source electrode of the power transistor via the connecting section to the source electrode;

wherein a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the power transistor via the connecting section to the gate electrode;

wherein when the first current value to be supplied from the first current source is assigned based on first one piece of the current-source control information and when the second current value to be supplied from the second current source is assigned based on second one piece of the current-source control information,

in a case of the switch-control signal being a high level signal, the first current source outputs the first current value and the second current source is electrically opened and does not output the second current value, and the first current value is fed into the gate electrode of the power transistor for becoming a charging current of input capacitance of the power transistor, and the charge by the charging current to input capacitance raises a voltage between the gate electrode and the source electrode of the power transistor up to a threshold voltage, then conduction becomes available between a drain electrode of the power transistor and the source electrode, and a time needed for

changing a shut-off state of the power transistor to a conductive state is controlled based on a group of the current-source control information,

in a case of the switch-control signal being a low level signal, the first current source is electrically opened and does not output the first current value and the second current source outputs the second current value, so that electron charges charged in the input capacitance of the power transistor become a discharging current to the first terminal of the second power source, and the discharge due to the discharging current from the input capacitance lowers the voltage between the gate electrode and the source electrode of the power transistor down to a threshold voltage, then the drain electrode and the source electrode of the power transistor are forced to be shut-off, and a time needed for changing the conductive state of the power transistor to the shut-off state is controlled based on the group of current-source control information.

3. The gate driver of claim 1, wherein the first current source and the second current source are formed by at least a monolithic integrated circuit, and at least one piece of current-source control information supplied from outside of the monolithic integrated circuit assigns the first current value and the second current value.

4. The gate driver of claim 2, wherein the first current source and the second current source are formed by at least a monolithic integrated circuit, and at least one piece of current-source control information supplied from outside of the monolithic integrated circuit assigns the first current value and the second current value.

5. The gate driver of claim 1, wherein the current-source control

information is fed into two input terminals of the cluster of input terminals that receive a gate-driver control signal, and each one of the input terminals is coupled with a passive element which assigns the first and the second current values respectively.

6. The gate driver of claim 2, wherein the current-source control information is fed into two input terminals of the cluster of input terminals that receive a gate-driver control signal, and each one of the input terminals is coupled with a passive element which assigns the first and the second current values respectively.

7. The gate driver of claim 1, wherein the current-source control information is fed into only one input terminal, which receives a gate-driver control signal, coupled to a passive elements, and a ratio of the first current value vs. the second current value is predetermined, so that a value of the passive element assigns either one of the first or the second current value.

8. The gate driver of claim 2, wherein the current-source control information is fed into only one input terminal, which receives a gate-driver control signal, coupled to a passive elements, and a ratio of the first current value vs. the second current value is predetermined, so that a value of the passive element assigns either one of the first or the second current value.

9. The gate driver of claim 3, wherein the current-source control information is fed into at least one input terminal that receives a gate-driver control signal, and the current-source control information is communication information supplied from outside of the gate driver, and the first and the

second current values are assigned based on the communication information.

10. The gate driver of claim 4, wherein the current-source control information is fed into at least one input terminal that receives a gate-driver control signal, and the current-source control information is communication information supplied from outside of the gate driver, and the first and the second current values are assigned based on the communication information.

11. A motor driving device comprising:

(a) a gate driver for forcing a power transistor including a gate electrode insulated with oxide film into conduction or shut-off, the gate driver including:

a first current source for outputting a first current value to raise an electric potential of the gate electrode for changing a shut-off state of the power transistor to a conductive state; and

a second current source for outputting a second current value to lower the electric potential of the gate electrode for changing the conductive state of the power transistor to the shut-off state,

wherein the first current value and the second current value are assigned based on at least one kind of current-source control information,

(b) a motor driving coil of one of single-phase and plural phases; and

(c) a first power transistor and a second power transistor coupled in series between terminals of a power supply, and a junction point of the series coupling coupled to an end of the driving coil,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of phases of the driving coils, and the power transistors include gate electrodes insulated with oxide

film,

wherein a plurality of the gate drivers are prepared corresponding to a plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit; and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

12. A motor driving device comprising:

(a) a gate driver to be coupled to a gate electrode and a source electrode of a power transistor including the gate electrode insulated with oxide film, the gate driver including:

a coupler to be coupled to outside of the gate driver, the coupler including a connecting section to the gate electrode, a connecting section to the source electrode, and a cluster of input terminals for receiving a gate-driver control signal; and

an interior structure including a first current source, a second current source, a gate circuit (NOT circuit), and a current assignor,

wherein the first current source and the second current source are assigned their current values by an output signal supplied from the current assignor, and their outputs are controlled by a switch-control signal supplied via one of the input terminals that receive a gate-driver control signal,

wherein the current assignor receives at least one kind of current-source control information via each one of the input terminals except the one through which the switch-control signal is supplied, and a group of

output signals of the current assignor are controlled based on the current-source control information;

wherein the gate circuit (NOT circuit) inverts the switch-control signal that controls the second current source;

wherein a first terminal of the first current source is coupled to the power supply of the gate driver, and a second terminal of the first current source is coupled to a first terminal of the second current source, and a second terminal of the second current source is coupled to the source electrode of the power transistor via the connecting section to the source electrode;

wherein a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the power transistor via the connecting section to the gate electrode;

wherein when the first current value to be supplied from the first current source is assigned based on first one piece of the current-source control information and when the second current value to be supplied from the second current source is assigned based on second one piece of the current-source control information,

in a case of the switch-control signal being a high level signal, the first current source outputs the first current value and the second current source is electrically opened and does not output the second current value, and the first current value is fed into the gate electrode of the power transistor for becoming a charging current of input capacitance of the power transistor, and the charge by the charging current to input capacitance raises a voltage between the gate electrode and the source electrode of the power transistor up to a threshold voltage, then conduction becomes available between a drain electrode of the power transistor and the source electrode, and a time

needed for changing a shut-off state of the power transistor to a conductive state is controlled based on a group of the current-source control information,

in a case of the switch-control signal being a low level signal, the first current source is electrically opened and does not output the first current value and the second current source outputs the second current value, so that electron charges charged in the input capacitance of the power transistor become a discharging current to the first terminal of the second power source, and the discharge due to the discharging current from the input capacitance lowers the voltage between the gate electrode and the source electrode of the power transistor down to a threshold voltage, then the drain electrode and the source electrode of the power transistor are forced to be shut-off, and a time needed for changing the conductive state of the power transistor to the shut-off state is controlled based on the group of current-source control information,

(b) a motor driving coil of one of single-phase and plural phases; and

(c) a first power transistor and a second power transistor coupled in series between terminals of a power supply, and a junction point of the series coupling coupled to an end of the driving coil,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of phases of the driving coils, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to a plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit; and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

13. A motor driving device comprising:

(a) a gate driver for forcing a power transistor including a gate electrode insulated with oxide film into conduction or shut-off, the gate driver including:

a first current source for outputting a first current value to raise an electric potential of the gate electrode for changing a shut-off state of the power transistor to a conductive state; and

a second current source for outputting a second current value to lower the electric potential of the gate electrode for changing the conductive state of the power transistor to the shut-off state,

wherein the first current value and the second current value are assigned based on at least one kind of current-source control information,

(b) a first power transistor and a second power transistor coupled in series between terminals of a power supply; and

(c) an inverter section of which output terminal is a junction point of the series coupling,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of output-phases of the inverter section, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to the plurality of the first and the second power transistors, and all of or parts

of the plurality of the gate drivers are formed by a monolithic integrated circuit, and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

14. A motor driving device comprising:

(a) a gate driver to be coupled to a gate electrode and a source electrode of a power transistor including the gate electrode insulated with oxide film, the gate driver including:

a coupler to be coupled to outside of the gate driver, the coupler including a connecting section to the gate electrode, a connecting section to the source electrode, and a cluster of input terminals for receiving a gate-driver control signal; and

an interior structure including a first current source, a second current source, a gate circuit (NOT circuit), and a current assignor,

wherein the first current source and the second current source are assigned their current values by an output signal supplied from the current assignor, and their outputs are controlled by a switch-control signal supplied via one of the input terminals that receive a gate-driver control signal,

wherein the current assignor receives at least one kind of current-source control information via each one of the input terminals except the one through which the switch-control signal is supplied, and a group of output signals of the current assignor are controlled based on the current-source control information;

wherein the gate circuit (NOT circuit) inverts the switch-control

signal that controls the second current source;

wherein a first terminal of the first current source is coupled to the power supply of the gate driver, and a second terminal of the first current source is coupled to a first terminal of the second current source, and a second terminal of the second current source is coupled to the source electrode of the power transistor via the connecting section to the source electrode;

wherein a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the power transistor via the connecting section to the gate electrode;

wherein when the first current value to be supplied from the first current source is assigned based on first one piece of the current-source control information and when the second current value to be supplied from the second current source is assigned based on second one piece of the current-source control information,

in a case of the switch-control signal being a high level signal, the first current source outputs the first current value and the second current source is electrically opened and does not output the second current value, and the first current value is fed into the gate electrode of the power transistor for becoming a charging current of input capacitance of the power transistor, and the charge by the charging current to input capacitance raises a voltage between the gate electrode and the source electrode of the power transistor up to a threshold voltage, then conduction becomes available between a drain electrode of the power transistor and the source electrode, and a time needed for changing a shut-off state of the power transistor to a conductive state is controlled based on a group of the current-source control information,

in a case of the switch-control signal being a low level signal,

the first current source is electrically opened and does not output the first current value and the second current source outputs the second current value, so that electron charges charged in the input capacitance of the power transistor become a discharging current to the first terminal of the second power source, and the discharge due to the discharging current from the input capacitance lowers the voltage between the gate electrode and the source electrode of the power transistor down to a threshold voltage, then the drain electrode and the source electrode of the power transistor are forced to be shut-off, and a time needed for changing the conductive state of the power transistor to the shut-off state is controlled based on the group of current-source control information,

(b) a first power transistor and a second power transistor coupled in series between terminals of a power supply; and

(c) an inverter section of which output terminal is a junction point of the series coupling,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of output-phases of the inverter section, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to the plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit, and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

15. The motor driving device of claim 11, wherein two pieces of the input terminals that receive a gate-driver control signal are available, and each one of the two terminals is coupled with a passive element, and the first current value and the second current value are assigned based on values of the passive elements respectively.

16. The motor driving device of claim 12, wherein two pieces of the input terminals that receive a gate-driver control signal are available, and each one of the two terminals is coupled with a passive element, and the first current value and the second current value are assigned based on values of the passive elements respectively.

17. The motor driving device of claim 13, wherein two pieces of the input terminals that receive a gate-driver control signal are available, and each one of the two terminals is coupled with a passive element, and the first current value and the second current value are assigned based on values of the passive elements respectively.

18. The motor driving device of claim 14, wherein two pieces of the input terminals that receive a gate-driver control signal are available, and each one of the two terminals is coupled with a passive element, and the first current value and the second current value are assigned based on values of the passive elements respectively.

19. The motor driving device of claim 11, wherein only one piece of the input terminal that receives a gate-driver control signal is available, and the

input terminal is coupled with a passive element, and a ratio of the first current value vs. the second current value is predetermined, so that either one of the first current value or the second current value is assigned based on a value of the passive element.

20. The motor driving device of claim 12, wherein only one piece of the input terminal that receives a gate-driver control signal is available, and the input terminal is coupled with a passive element, and a ratio of the first current value vs. the second current value is predetermined, so that either one of the first current value or the second current value is assigned based on a value of the passive element.

21. The motor driving device of claim 13, wherein only one piece of the input terminal that receives a gate-driver control signal is available, and the input terminal is coupled with a passive element, and a ratio of the first current value vs. the second current value is predetermined, so that either one of the first current value or the second current value is assigned based on a value of the passive element.

22. The motor driving device of claim 14, wherein only one piece of the input terminal that receives a gate-driver control signal is available, and the input terminal is coupled with a passive element, and a ratio of the first current value vs. the second current value is predetermined, so that either one of the first current value or the second current value is assigned based on a value of the passive element.

23. The motor driving device of claim 11, wherein at least one piece of

the input terminal, which receives a gate-driver control signal and the current-source control information, is available, and the current-source control information is communication information supplied from outside of the gate driver, and the first current value and the second current value are assigned based on the communication information.

24. The motor driving device of claim 12, wherein at least one piece of the input terminal, which receives a gate-driver control signal and the current-source control information, is available, and the current-source control information is communication information supplied from outside of the gate driver, and the first current value and the second current value are assigned based on the communication information.

25. The motor driving device of claim 13, wherein at least one piece of the input terminal, which receives a gate-driver control signal and the current-source control information, is available, and the current-source control information is communication information supplied from outside of the gate driver, and the first current value and the second current value are assigned based on the communication information.

26. The motor driving device of claim 14, wherein at least one piece of the input terminal, which receives a gate-driver control signal and the current-source control information, is available, and the current-source control information is communication information supplied from outside of the gate driver, and the first current value and the second current value are assigned based on the communication information.

27. An apparatus equipped with a motor driving device, the motor driving device comprising:

(a) a gate driver for forcing a power transistor including a gate electrode insulated with oxide film into conduction or shut-off, the gate driver including:

a first current source for outputting a first current value to raise an electric potential of the gate electrode for changing a shut-off state of the power transistor to a conductive state; and

a second current source for outputting a second current value to lower the electric potential of the gate electrode for changing the conductive state of the power transistor to the shut-off state,

wherein the first current value and the second current value are assigned based on at least one kind of current-source control information,

(b) a motor driving coil of one of single-phase and plural phases; and

(c) a first power transistor and a second power transistor coupled in series between terminals of a power supply, and a junction point of the series coupling coupled to an end of the driving coil,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of phases of the driving coils, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to a plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit; and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning

terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

28. An apparatus equipped with a motor driving device, the motor driving device comprising:

(a) a gate driver to be coupled to a gate electrode and a source electrode of a power transistor including the gate electrode insulated with oxide film, the gate driver including:

a coupler to be coupled to outside of the gate driver, the coupler including a connecting section to the gate electrode, a connecting section to the source electrode, and a cluster of input terminals for receiving a gate-driver control signal; and

an interior structure including a first current source, a second current source, a gate circuit (NOT circuit), and a current assignor,

wherein the first current source and the second current source are assigned their current values by an output signal supplied from the current assignor, and their outputs are controlled by a switch-control signal supplied via one of the input terminals that receive a gate-driver control signal,

wherein the current assignor receives at least one kind of current-source control information via each one of the input terminals except the one through which the switch-control signal is supplied, and a group of output signals of the current assignor are controlled based on the current-source control information;

wherein the gate circuit (NOT circuit) inverts the switch-control signal that controls the second current source;

wherein a first terminal of the first current source is coupled to the power supply of the gate driver, and a second terminal of the first current

source is coupled to a first terminal of the second current source, and a second terminal of the second current source is coupled to the source electrode of the power transistor via the connecting section to the source electrode;

wherein a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the power transistor via the connecting section to the gate electrode;

wherein when the first current value to be supplied from the first current source is assigned based on first one piece of the current-source control information and when the second current value to be supplied from the second current source is assigned based on second one piece of the current-source control information,

in a case of the switch-control signal being a high level signal, the first current source outputs the first current value and the second current source is electrically opened and does not output the second current value, and the first current value is fed into the gate electrode of the power transistor for becoming a charging current of input capacitance of the power transistor, and the charge by the charging current to input capacitance raises a voltage between the gate electrode and the source electrode of the power transistor up to a threshold voltage, then conduction becomes available between a drain electrode of the power transistor and the source electrode, and a time needed for changing a shut-off state of the power transistor to a conductive state is controlled based on a group of the current-source control information,

in a case of the switch-control signal being a low level signal, the first current source is electrically opened and does not output the first current value and the second current source outputs the second current value, so that electron charges charged in the input capacitance of the power

transistor become a discharging current to the first terminal of the second power source, and the discharge due to the discharging current from the input capacitance lowers the voltage between the gate electrode and the source electrode of the power transistor down to a threshold voltage, then the drain electrode and the source electrode of the power transistor are forced to be shut-off, and a time needed for changing the conductive state of the power transistor to the shut-off state is controlled based on the group of current-source control information,

(b) a motor driving coil of one of single-phase and plural phases; and

(c) a first power transistor and a second power transistor coupled in series between terminals of a power supply, and a junction point of the series coupling coupled to an end of the driving coil,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of phases of the driving coils, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to a plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit; and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

29. An apparatus equipped with a motor driving device, the motor driving device comprising:

(a) a gate driver for forcing a power transistor including a gate electrode insulated with oxide film into conduction or shut-off, the gate driver including:

a first current source for outputting a first current value to raise an electric potential of the gate electrode for changing a shut-off state of the power transistor to a conductive state; and

a second current source for outputting a second current value to lower the electric potential of the gate electrode for changing the conductive state of the power transistor to the shut-off state,

wherein the first current value and the second current value are assigned based on at least one kind of current-source control information,

(b) a first power transistor and a second power transistor coupled in series between terminals of a power supply; and

(c) an inverter section of which output terminal is a junction point of the series coupling,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of output-phases of the inverter section, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to the plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit, and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

30. An apparatus equipped with a motor driving device, the motor driving device comprising:

(a) a gate driver to be coupled to a gate electrode and a source electrode of a power transistor including the gate electrode insulated with oxide film, the gate driver including:

a coupler to be coupled to outside of the gate driver, the coupler including a connecting section to the gate electrode, a connecting section to the source electrode, and a cluster of input terminals for receiving a gate-driver control signal; and

an interior structure including a first current source, a second current source, a gate circuit (NOT circuit), and a current assignor,

wherein the first current source and the second current source are assigned their current values by an output signal supplied from the current assignor, and their outputs are controlled by a switch-control signal supplied via one of the input terminals that receive a gate-driver control signal,

wherein the current assignor receives at least one kind of current-source control information via each one of the input terminals except the one through which the switch-control signal is supplied, and a group of output signals of the current assignor are controlled based on the current-source control information;

wherein the gate circuit (NOT circuit) inverts the switch-control signal that controls the second current source;

wherein a first terminal of the first current source is coupled to the power supply of the gate driver, and a second terminal of the first current source is coupled to a first terminal of the second current source, and a second terminal of the second current source is coupled to the source electrode of the

power transistor via the connecting section to the source electrode;

wherein a junction point of the second terminal of the first current source and the first terminal of the second current source is coupled to the gate electrode of the power transistor via the connecting section to the gate electrode;

wherein when the first current value to be supplied from the first current source is assigned based on first one piece of the current-source control information and when the second current value to be supplied from the second current source is assigned based on second one piece of the current-source control information,

in a case of the switch-control signal being a high level signal, the first current source outputs the first current value and the second current source is electrically opened and does not output the second current value, and the first current value is fed into the gate electrode of the power transistor for becoming a charging current of input capacitance of the power transistor, and the charge by the charging current to input capacitance raises a voltage between the gate electrode and the source electrode of the power transistor up to a threshold voltage, then conduction becomes available between a drain electrode of the power transistor and the source electrode, and a time needed for changing a shut-off state of the power transistor to a conductive state is controlled based on a group of the current-source control information,

in a case of the switch-control signal being a low level signal, the first current source is electrically opened and does not output the first current value and the second current source outputs the second current value, so that electron charges charged in the input capacitance of the power transistor become a discharging current to the first terminal of the second power source, and the discharge due to the discharging current from the input

capacitance lowers the voltage between the gate electrode and the source electrode of the power transistor down to a threshold voltage, then the drain electrode and the source electrode of the power transistor are forced to be shut-off, and a time needed for changing the conductive state of the power transistor to the shut-off state is controlled based on the group of current-source control information,

(b) a first power transistor and a second power transistor coupled in series between terminals of a power supply; and

(c) an inverter section of which output terminal is a junction point of the series coupling,

wherein a number of the first power transistors and a number of the second power transistors correspond to a number of output-phases of the inverter section, and the power transistors include gate electrodes insulated with oxide film,

wherein a plurality of the gate drivers are prepared corresponding to the plurality of the first and the second power transistors, and all of or parts of the plurality of the gate drivers are formed by a monolithic integrated circuit, and

wherein the first current value and the second current value of each one of the gate drivers are assigned with at least one terminal (assigning terminal) that receives a gate-driver control signal by one operation from outside of the monolithic integrated circuit.

31. The apparatus of claim 27, wherein the apparatus is one of a printer, copying machine, optical medium apparatus, hard disc apparatus, air-conditioner, air cleaner, hot-water supply, refrigerator, vacuum cleaner, washing machine, FA apparatus, and general-purpose inverter apparatus.

32. The apparatus of claim 28, wherein the apparatus is one of a printer, copying machine, optical medium apparatus, hard disc apparatus, air-conditioner, air cleaner, hot-water supply, refrigerator, vacuum cleaner, washing machine, FA apparatus, and general-purpose inverter apparatus.

33. The apparatus of claim 29, wherein the apparatus is one of a printer, copying machine, optical medium apparatus, hard disc apparatus, air-conditioner, air cleaner, hot-water supply, refrigerator, vacuum cleaner, washing machine, FA apparatus, and general-purpose inverter apparatus.

34. The apparatus of claim 30, wherein the apparatus is one of a printer, copying machine, optical medium apparatus, hard disc apparatus, air-conditioner, air cleaner, hot-water supply, refrigerator, vacuum cleaner, washing machine, FA apparatus, and general-purpose inverter apparatus.